

**Amendments to the Claims:**

This listing of claims replaces any and all prior claim lists.

**Listing of Claims:**

Claims 1-8 (canceled).

Claim 9 (new). A copolymer of ethylene and  $\alpha$ -olefin of from 4 to 20 carbon atoms having a melt flow rate (MFR) measured at 190°C under a load of 21.18 N according to JIS K7210-1995 of from 1.4 to 10 g/10 minutes, a melt tension (MT) at 190°C, an intrinsic viscosity ( $[\eta]$ ) and a chain length A satisfying following formulas (1) to (3),

a melt flow rate ratio (MFRR) of 60 or more that is calculated by dividing the melt flow rate measured at 190°C under a load of 211.82 N according to JIS K7210-1995 by said MFR measured at 190°C under a load of 21.18 N, and

an activation energy for melt flow of 54 kJ/mol or more, wherein the chain length A is a chain length at peak position of a logarithm normal distribution curve of a component having the highest molecular weight among logarithm normal distribution curves obtained by dividing a chain length distribution curve obtained by gel permeation chromatography measurement into at least two logarithm normal distribution curves,

$$2 \times \text{MFR}^{-0.59} < \text{MT} < 20 \times \text{MFR}^{-0.59}$$

$$1.02 \times \text{MFR}^{-0.094} < [\eta] < 1.50 \times \text{MFR}^{-0.156}$$

$$3.30 < \log A < -0.0815 \times \log(\text{MFR}) + 4.05$$

formula (1)

formula (2), and

formula (3).

Claim 10 (new). A copolymer of ethylene and  $\alpha$ -olefin of from 4 to 20 carbon atoms having:

a melt flow rate (MFR) measured at 190°C under a load of 21.18 N according to JIS K7210-1995 of from 1.4 to 10 g/10 minutes, melt tension at 190°C (MT), an intrinsic viscosity ( $[\eta]$ ) and characteristic relaxation time at 190°C ( $\tau$ ) satisfying the following formulas (1) (2) and (4),

a melt flow rate ratio (MFRR) of 60 or more that is calculated by dividing the melt flow rate measured at 190°C under a load of 211.82 N according to JIS K7210-1995 by said MFR measured at 190°C under a load of 21.18 N, and

an activation energy for melt flow of 54 kJ/mol or more,

$$2 \times \text{MFR}^{-0.59} < \text{MT} < 20 \times \text{MFR}^{-0.59}$$

formula (1)

$$1.02 \times \text{MFR}^{-0.094} < [\eta] < 1.50 \times \text{MFR}^{-0.156}$$

formula (2), and

$$2 < \tau < 8.1 \times \text{MFR}^{-0.746}$$

formula (4).

Claim 11 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 9, wherein the activation energy for melt flow of not less than 60 kJ/mol.

Claim 12 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 10, wherein the activation energy for melt flow of not less than 60 kJ/mol.

Claim 13 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 9, wherein the melt flow rate (MFR) measured at 190°C under a load of 21.18N according to JIS K7210-1995 is from 1.65 to 10 g/10 minutes.

Claim 14 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 10,

wherein the melt flow rate (MFR) measured at 190°C under a load of 21.18N according to JIS K7210-1995 is from 1.65 to 10 g/10 minutes.

Claim 15 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 9, wherein the copolymer of ethylene and  $\alpha$ -olefin has swell ratio (SR) and  $[\eta]$  satisfying the following formula (6) or (7):

when  $[\eta] < 1.20$ ,  $-0.91 \times [\eta] + 2.232 < SR < 2$ ,      formula (6), and

when  $[\eta] \geq 1.20$ ,  $1.17 < SR < 2$       formula (7).

Claim 16 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 10, wherein the copolymer of ethylene and  $\alpha$ -olefin has swell ratio (SR) and  $[\eta]$  satisfying the following formula (6) or (7):

when  $[\eta] < 1.20$ ,  $-0.91 \times [\eta] + 2.232 < SR < 2$ ,      formula (6), and

when  $[\eta] \geq 1.20$ ,  $1.17 < SR < 2$       formula (7).